

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed February 18, 2010. All pending Claims 14-29 and 31 were rejected in the Office Action. Claims 1-13 and 30 were previously cancelled. Independent Claims 14, 28, and 29 are herein amended. Applicants respectfully request reconsideration and favorable action in this case.

Amended Independent Claims 14, 28, and 29 are Allowable.

Independent Claims 14, 28, and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0057663 ("*Lim*") in view of U.S. Patent No. 6,684,081 ("*Sarkkinen*").

Although Applicants disagree with these rejections, Applicants have amended independent Claims 14, 28, and 29 to further clarify specific distinctions from the cited *Lim* and *Sarkkinen*. For example, amended Claim 14 recites, in part:

wherein the form of the user data messages announced by the at least one planning message includes at least one of a type of content of the user data messages and a coding of the user data messages, the form of the user data messages announced by the at least one planning message being used by each subscriber device to **determine whether or not that subscriber device is technically capable of processing the user data messages, and to select whether or not to receive the user data messages at that subscriber device based on such determination, wherein receiving the user data messages at the subscriber device comprises the subscriber device reading or monitoring the user data messages from the one or more transmission channels in which the user data messages are transmitted.**

Thus, the claimed invention pre-announces the form of user data messages with a planning message sent separately and before the user data messages. A subscriber device then uses the pre-announced form of user data messages to determine whether the subscriber device is technically capable of processing the user data messages. If the answer is no, then the user data messages are **not even received** by the subscriber device, i.e., the subscriber device does not read or monitor the user data messages from the transmission channel(s) in which the user data messages are transmitted. In prior systems (such as the system taught by *Lin*, for example), the user data messages are *received by the subscriber device*, and *then* the

subscriber device determines whether that subscriber device is an intended recipient (e.g., whether that subscriber device is part of a particular multi-cast group for which the user data messages are intended), and if not, discards the *already received* user data messages. In the claimed invention, the user data messages that the subscriber device determines it cannot process are *not even received by the subscriber device*, i.e., the subscriber device does not read or monitor the user data messages from the transmission channel(s) in which the user data messages are transmitted, which saves the energy/resources required to *receive* the user data messages, *determine* whether that subscriber device is an intended recipient, and *discard* the user data messages. The specific teachings of *Lim* and *Sarkkinen* are discussed below.

Lim first teaches a prior art multicast system where a “packet data serving node (PDSN) sets an individual link to every target MS” (paragraph 0008, lines 3-4 and FIG 1). This technology has many problems both in the wireless and the wired infrastructure (paragraph 0015). The goal of *Lim* is to reduce the load burden in the wired infrastructure (paragraph 0017, line 4 and paragraph 0018, lines 1-2).

Lim proposes to send the M/B (Multicast/Broadcast) packet data in the wired infrastructure only once without setting a link between the PDSN and the mobile stations MS, to temporarily store the M/B packet data in the wireless infrastructure (base stations BTS and the base station controller BSC), and **broadcast** the M/B packet data from the wireless infrastructure to **all** mobile stations MS. **Each mobile station receives all M/B packet data** and determines whether the respective subscriber is an intended recipient, based on header information within the M/B packet data. (paragraphs 0019-0023 and FIG 3).

The difference between multicasting and broadcasting is important. In *multicasting*, all receivers are known (*Lim*, par. 0005, lines 1-3; and *Sarkkinen*, col. 1, lines 62-67). Data are only sent to the known receivers (see, e.g., prior art systems with one dedicated link for each receiver between the PDSN and the mobile stations MS). In *broadcasting*, the receivers are unspecified (*Lim*, par. 0005, lines 15-16; and *Sarkkinen*, col. 1, lines 59-60).

To achieve multicast-like behavior in a broadcast infrastructure, all receivers of the broadcast must first receive all broadcasted data and must then decide if they belong to the multicast (and then further process the received data) or do not belong to the multicast (and then discard the received data).

This is exactly what occurs in *Lim* as a consequence of the *Lim*'s explicit instruction to no longer have individual links between the PDSN and the mobile stations MS (paragraph 0019, lines 5-7, "without setting a link between a packet data serving node (PDSN) and target mobile stations") and instead broadcast, in the wireless infrastructure, the M/B packet data from the base stations BTS to all mobile stations MS.

The base stations BTS are explicitly instructed to broadcast all M/B packet data to all mobile stations (paragraph 0035, line 1). *All mobile stations first receive the M/B packet data* and then check, based on header information *within the M/B packet data*, whether the subscriber is a member of the indicated multicast group and therefore an intended recipient of the M/B packet data. This check is a necessary aspect of *Lim*'s technique for using broadcast technology in the wireless infrastructure.

Once this test is concluded, *all* received M/B packet data which belong to the multicast group are processed by the mobile station MS. *Lim* only allows mobile stations to discard M/B packet data *from other multicast groups*, but *all M/B packet data of subscribed groups are completely received* (paragraph 0035, line 3-5, "The MS checks whether the multicast/broadcast (M/B) data has been transmitted from a multicast group to which it belongs and receives only data from its subscribed group.")

This is explicitly confirmed in paragraph 0041. For radio packet data multicast/broadcast the F-CDCH 250 *receives all packet data* F-CDCH SDU on the broadcast channel (paragraph 0041, lines 2-5). After removal of a MUX header, the CDMP 200 **extracts from the received packet data** only those CDMP PDU's from multicast groups for which the mobile station MS has subscribed (paragraph 0041, lines 6-8), removes the multicast header, and outputs a CDMP SDU (paragraph 0041, line 11-13). After optional completion of missing data and removal of a corresponding link header (paragraph 0041, lines 14-17), the received M/B packet data are finally forwarded to the application layer for further processing (paragraph 0041, lines 18-20). In other words, *all broadcasted M/B packet data are always received* (by F-CDCH 250 as F-CDCH SDU) and only those data which do not belong to a multicast group for which the mobile station MS has subscribed are discarded. All other M/B packet data are processed, completely independent of whether or not the mobile terminal is technically capable to do so.

Further, Applicants disagree with the Examiner's interpretation of *Lim*'s multicast group identifier as information that announces the "form" of the user data. In *Lim*, only an "assignment" of the user data, and not a "form" of the user data, is announced to a multicast group. This assignment information contains no information about the "form" of the user data. It is impossible to determine, based on the multicast group, whether a subscriber device is technically capable of processing the related user data, as required in Applicants' claims.

To summarize:

- *Lim*'s system is operationally identical to the prior art multicast system that it describes; only the technical implementation is different.
- *Lim* does not disclose an announcement of the form of the M/B packet data, but only an announcement of the respective multicast group.
- This latter announcement is a necessary consequence of using a broadcast in the wireless part of the *Lim* system.
- *Lim* does not disclose a determination of whether the mobile station is technically capable of processing the user data.
- In *Lim*'s system, **each mobile station MS receives all broadcasted M/B packet data, even data that the mobile station MS is not capable of processing.**

Sarkkinen addresses the problem that for the multicast service of the 3GPP UTRAN system, the multicast related control and announcement information to and from the network and to and from the mobile stations is in practice tied with the transmission of the multicast data itself, *i.e.*, through the same air physical channel (column 1, line 39-44). Therefore, the multicast concept in UTRAN must be capable of separating the control information (*i.e.*, control plane) and the multicast data (*i.e.*, user plane) from each other (column 1, line 45-47 and column 2, line 44-46).

Sarkkinen proposes several technologies to separate the control plane from the user plane (column 3, line 1-32).

A further, more specific problem stems from the agreement that there is no need for a retransmission functionality for multicast services in the UTRAN system (column 1, line 29-30). As a consequence, control information may have to be repeated without changing the content of the frame by changing the sequence number SN of the RLC packet data unit. In

this case a comparison between old and new control frames cannot be made from the sequence number and therefore something is required to recognize the reception of the already received control frames (column 1, line 50-57).

Sarkkinen proposes to separate the already received control information from the first-time-received control information from each other (column 2, line 59-61). All control information is *received* first, and then if the control information is such that it is repeated time after time, the mobile stations can decide to delete repeated packets at the RLC layer or whether to send the repeated packets to an upper layer (column 2, line 61-64).

However, *Sarkkinen* includes no teaching or hint of an announcement of the form of the user plane data. Further, *Sarkkinen* includes no teaching or hint of a determination of whether the mobile station is technically capable of processing user plane data. And further, in *Sarkkinen*, each mobile station *receives all broadcasted control information*, even control information that it has already received before!

In contrast to *Lim* nor in *Sarkkinen*, as discussed above, in the claimed invention, a subscriber device then uses the pre-announced form of user data messages (pre-announced by means of a planning message) to determine whether the subscriber device is technically capable of processing the user data messages. If not, then the user data messages are **not even received** by the subscriber device. Thus:

- The claimed invention is operationally much more sophisticated than *Lim* and allows a subscriber device to avoid receiving user data that the subscriber device is not capable of processing, by means of the subscriber device not reading or monitoring such user data from the transmission channel(s) in which the user data is transmitted.
- There is no hint in either *Lim* or *Sarkkinen* of this enhanced operational concept.
- There is no hint in either *Lim* or *Sarkkinen* of key technical features of our invention:
 - (1) the new information element regarding the “form” of user data;
 - (2) the separate planning message that can be processed *before* arrival of the user data; and
 - (3) the step of selecting whether or not to receive user data.

Thus, for at least the various reasons set forth above, Applicants respectfully submit that amended independent Claims 14, 28, and 29 are allowable over *Lim* and *Sarkkinen*. Accordingly, Applicants respectfully request reconsideration and allowance of independent Claims 14, 28, and 29, as well as all dependent claims.

All Dependent Claims are Allowable.

Dependent Claims 15, 19-21, 23, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Lim* in view of *Sarkkinen*.

Dependent Claims 16-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Lim* in view of U.S. Patent No. 6,771,639 ("*Holden*").

Dependent Claims 22, 24 and 26-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Lim* in view of well-known prior art.

Applicants submit that all dependent claims are allowable at least because they depend from the independent claims shown above to be allowable. Further, *Holden* does not teach the features of the independent claims not taught by *Lim* or *Sarkkinen*. Further, Applicants do not concede that any of the proposed combinations of references are legally proper. Thus, for at least these reasons, Applicants respectfully request reconsideration and allowance of all pending dependent claims.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the remarks set forth above. Applicants respectfully request reconsideration of the pending claims.

Applicants also authorize the Commissioner to charge \$1,110 for a three-month extension of time.

Applicants believe there are no other fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-4871 of King & Spalding L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.457.2030.

Respectfully submitted,
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